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NIMA/DOD31 July 1967
Ref: LJC 803-1445

25X1A



Contracting Officer

25X1A

Subject:

25X1A

[REDACTED] Proposal

Dear Sir:

25X1A

Submitted herewith for your consideration is a Proposal in the estimated amount of [REDACTED] for various efforts associated with the "Chip Printer" being supplied to you under the subject contract.

This Proposal represents the effort to diagnose and correct deficiencies found in the Government furnished equipment such as: the processing magazines, the manual holder and extractor mechanism, chip holders and a teletype machine. A complete description of the problems and the course of action taken by us are detailed in Attachment "A", copies of which are transmitted herewith.

The redesign and rework of the GFE equipment will insure its reliability and also its compatibility with the "Chip Printer". These efforts are:

1. Redesign and rework the four processing magazines.
2. Relocate the magazine keying arrangement.
3. Redesign and rework the print magazine.
4. Inspect and rework chip holders for conformance of critical dimensions.

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5. Redesign and rework the manual insert and eject mechanism.
6. Provide all necessary detail drawings and parts lists for the changes above, to the present contract specifications.

A complete cost breakdown for this Proposal is detailed in Attachment "B". Based upon your complete acceptance of this Proposal, the following financial adjustments should be made to the subject contract:

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We trust that this Proposal is complete for your evaluation, and that this effort can be incorporated into the contract at the earliest possible date.

Very truly yours,

LJC/cc
encls.

Contracts

25X1A

cc w/encl.: Technical Representative/
[REDACTED]

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ATTACHMENT "A"

TECHNICAL PROPOSAL

Project "105"

MAGAZINE INTERFACE

1.0 The Chip Format Printer is designed to operate conjunction 25X1A
with an automatic processor designed and manufactured by [REDACTED]

The common link between the two units is a [REDACTED] manufactured proc 25X1A
magazine that has a 36 chip (in [REDACTED] chip holders) capacity, that is 25X1A
matically loaded by the Chip Format Printer and automatically unloaded by
the Processor. At present, there are in existence 4 customer furnished
processing magazines, 1 manual holder insert and extractor mechanism,
chip holders and a teletype machine.

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2.0 Effort was expended in the diagnosing and debugging of the [REDACTED]
Processing Magazine and [REDACTED] Chip Format Printer interface during the 25X1A
period between 15 February 1967 and 5 March 1967, as documented in [REDACTED]
Laboratory Record Book No. 2018. The following three paragraphs are a
summary of the recorded activities.

2.1 February 15 - 18

A) Ran a series of tests trying to load GFE holders into
processing magazine [REDACTED] 25X1A

During this period two types of failures continually occurred.

1. GFE Chip Holders would not align properly in Magazine,
causing loading failures.

2. Previously loaded holders would tip over in Magazine, causing insert failure.

B) Attempted electrical and mechanical adjustments to overcome these failures.

1. Changed trigger solenoid release delay time by changing capacitors.
2. Changed trigger stroke by adjusting mechanism.
3. Changed capacitor and discharge resistor across loading solenoid to eliminate tipping of holders.
4. Readjusted and cushioned loading arms.

C) Random failures that occurred during these tests.

1. Stalling of Transport Drive (defective Chip Holder).
2. Stalling of Loading Mechanism because of excessive drag of already loaded holders.

D) Damage to mechanism incurred during above tests (caused suspension of tests).

1. Loading trigger bent so badly it had to be fabricated (due to loading into jammed stack).
2. Ball bearing in trigger assembly damaged.
3. Transport arms damaged.

2.2 February 14 - March 2

1. Designed and added breadboard changes to [REDACTED] 25X1A Processing Magazine.
2. Repaired transport arms.
3. Refabricated, disassembled and reassembled trigger and trigger mechanism, and replaced damaged ball bearing.

2.3 March 3 - 5

Ran series of tests after retiming and realigning transport and insert mechanisms, which were successful.

3.0 The following difficulties must be corrected.

3.1 The method of chip holder removal by the Processor is not compatible with the orientation of the chip holder in the processing magazine as inserted by the Chip Format Printer.

3.2 The processing magazines are not uniform in the banking area; i.e., the portion of the processor magazines that mate with the Chip Format Printer Print Magazine vary in squareness, banking dimensions and loading gate location.

3.3 The chip holders are not uniform in length and do not have all their component pieces coplaner. Excessive deviation in these two areas causes

3.4 Excessive play in the processor magazine platen guides and erratic operation of the platen tensioning mechanism (garter spring sliding over a pulley) allows the platen to tilt or lose contact with the holder stack or both, during the automatic chip holder loading. This allows the holder stack to fall or cock causing a magazine jam. The above internal magazine characteristics will also cause unloading malfunctions if a partially filled magazine is mishandled (i.e., turned upside down or shaken along its long axis).

4.0 Processing Magazines (4 units) - The 4 processing magazines will be reworked to achieve uniformity in the banking and loading areas. A platen assembly will be designed, fabricated and installed to eliminate platen tilt and erratic motion during automatic loading. The magazine keying arrangement will be relocated to allow compatible operation of the Chip Format Printer and the Processor. Layouts, detail drawings, assembly drawings and parts lists of the areas that are reworked will be provided.

4.1 Print Magazine, Chip Format Printer - The Print Magazine banking and locking areas will be redesigned and reworked to be compatible with the altered processing magazine.

4.2 Chip Holders - All holders will be inspected for conformance of critical dimensions. All salvageable holders will be reworked to conformance. A detailed Specification Control Drawing will be provided.

4.3 Manual Insert and Eject Mechanism (1 unit) - The insert mechanism will be redesigned and reworked to make the unit compatible with the 4 reworked processing magazines. Layouts, assembly drawings, detail drawings and parts lists of the redesigned areas will be provided.

5.0 Teletype Unit - The Chip Format Printer is a digitally controlled device. Digital inputs to the unit is via a GFE Teletype unit, Model ASR 35.

The following difficulties were encountered with the Teletype unit.

1. A misplaced internal jumper caused lockout of certain Teletype functions. This made it necessary to "jerry rig" circuits circumventing these lockouts so that debugging of the Chip Format Printer could proceed.
2. Lack of a pulse to flag the reading of a word by the tape reader made it necessary to locate, shape and radio noise a suitable solenoid pulse to serve the function.

6.0 General Comments.

6.1 Even though we will rework the chip holders, their overall photographic development quality remains per the original condition.

6.2 Rework of the two magazines not in our possession assumes that they are similar in internal design to the two in our possession.

6.3 This Proposal does not consider cosmetic repairs; i.e., repair of chipped nylon corners, chipped paint, etc.

6.4 The redesign of the internal mechanism of the processor magazine will not eliminate the cocking of individual chip holders should a partially filled magazine be mishandled.

6.5 The redesign of the internal mechanism of the processing magazine will reduce the processing magazine to 34 or 35 chip holders.